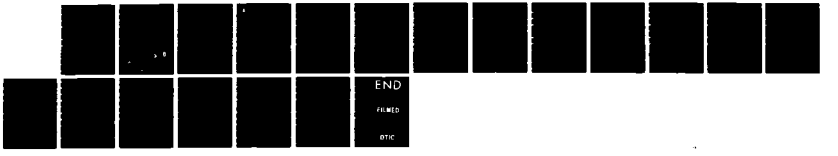
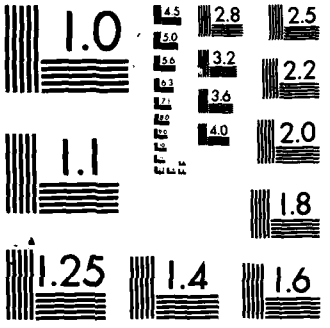
AD-A159 357 POTENTIAL DOLLAR REDUCTIONS TO DOD'S FISCAL YEAR 1986 1/1
MISSILE AND THE LIG (U) GENERAL ACCOUNTING OFFICE
WASHINGTON DC NATIONAL SECURITY AND 09 SEP 85
UNCLASSIFIED NSIAD-85-138 F/G 5/1 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Chairman, Subcommittee On Defense, Committee On Appropriations United States Senate

AD-A159 357

Potential Dollar Reductions To DOD's Fiscal Year 1986 Missile And The Lightweight Multipurpose Weapon Procurement Programs

The Army and Marine Corps' fiscal year 1986 appropriation requests for the Stinger, the Hellfire, the Chaparral, the TOW-2, the Hawk, and the Patriot missiles and for the Lightweight Multipurpose Weapon total about $2.5 billion, broken out as follows:

--$2.4 billion for the missiles and

--$108.3 million for the Lightweight Multipurpose Weapon.

GAO concluded that most missile programs were adequately justified; however, $313.9 million of the Army and Marine Corps' missile requests and the $108.3 million requested for the Lightweight Multipurpose Weapon should be considered for potential reduction.

NSIAD-85-138
SEPTEMBER 9, 1985

Request for copies of GAO reports should be sent to:

U.S. General Accounting Office
Document Handling and Information
Services Facility
P.O. Box 6015
Gaithersburg, Md. 20877

Telephone (202) 275-6241

The first five copies of individual reports are free of charge. Additional copies of bound audit reports are $3.25 each. Additional copies of unbound report (i.e., letter reports) and most other publications are $1.00 each. There will be a 25% discount on all orders for 100 or more copies mailed to a single address. Sales orders must be prepaid on a cash, check, or money order basis. Check should be made out to the "Superintendent of Documents".

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

NATIONAL SECURITY AND
INTERNATIONAL AFFAIRS DIVISION

B-205940

The Honorable Ted Stevens
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

As requested, we examined the justifications for the Department of Defense's fiscal year 1986 appropriations request for selected missiles which total about $2.4 billion and the $108.3 million request for the Lightweight Multipurpose Weapon. The missile systems reviewed included the Hellfire, the Chaparral, the TOW-2, the Hawk, the Patriot, and the Stinger.

This letter provides an overview of our observations, and appendixes I through VIII provide details. Most missile programs were adequately justified. However, we believe $286.2 million of the Army's missile request and $27.7 million of the Marine Corps' missile request should be considered for reduction, as summarized in table 1 below.

Table 1

Army and Marine Corps Missile Requests

Missile system	FY 1986 request	Potential reduction
	------(millions)------	
Army:		
Hellfire	$ 250.7	$ 16.6
Chaparral	223.3	60.0
TOW-2	226.9	101.2
HAWK	54.1	-
Patriot	983.4	8.8
Stinger	304.1	99.6
Total	2,042.5	286.2

Missile system	FY 1986 request	Potential reduction
Marine Corps:		
Hellfire	55.1	3.3
TOW-2	44.5	24.4
HAWK	179.1	-
Stinger	59.4	-
Total	338.1	27.7
Total, Army and Marine Corps	$2,380.6	$ 313.9

In addition, in our opinion, the Army's $107.6 million request and the Marine Corps' $0.7 million request for the Improved Lightweight Multipurpose Weapon should be considered for reduction.

HELLFIRE

The actual fiscal year 1985 contract cost for the Hellfire missile--established after the fiscal year 1986 budget was submitted--was 7.5 percent, or $15 million, less than planned. By projecting this experience to the fiscal year 1986 program, we identified potential reductions of $16.6 million and $3.3 million, respectively, in the Army and the Marine Corps' requests. Using the 1985 experience and other factors as a basis, the Army predicts total program savings of $158 million, providing a strong indication that savings should be achievable in fiscal year 1986. (See app. I.)

CHAPARRAL

The Chaparral missile with the rosette seeker experienced design problems during first flight testing, which has delayed completion of the development program. To initiate rosette seeker missile procurement in fiscal year 1986, the Army plans to award the production contract in June 1986, 3 months later than the budget estimate and 3 months before final test and evaluation results are available. If the production decision was to be deferred until after completion of the tests and evaluation, program risk would be reduced and this would allow for deferring the $60 million requested for the rosette seeker missile procurement in fiscal year 1986. Deferment would also allow the Army to restructure missile production schedules

to more efficiently use planned capacity and could save up to $5,000 for each missile, according to Army estimates. (See app. II.)

TOW-2

The Army and Marine Corps' requests for fiscal year 1986 TOW-2 missile procurement at levels exceeding fiscal year 1985 quantities may not be warranted for reasons discussed in a classified fact sheet being sent to you under a separate cover. By limiting procurement to the minimum annual production quantity of 12,000 units, there is a potential to reduce the Army and the Marine Corps' requests by $101.2 million and $24.4 million, respectively. (See app. III.)

HAWK

The Army and Marine Corps' requests for the Hawk missile appear appropriate. (See app. IV.)

PATRIOT

The Army's fiscal year 1986 budget request for the Patriot missile should be considered for a reduction of $8.8 million on the basis of a recent warhead unit cost estimate--the budget request includes $79,000 for each warhead, but the Army's latest estimate is $15,100 less than requested. (See app. V.)

STINGER

The Army's fiscal year 1986 budget request for the Stinger missile has the potential for a $99.6 million reduction because of the Office of the Secretary of Defense's concerns that the Army's production schedule for the reprogrammable microprocessing capability might result in program slippage, cost growth, and system reliability deficiencies. (See app. VI.)

LIGHTWEIGHT MULTIPURPOSE WEAPON

The Army and Marine Corps' requests for the Lightweight Multipurpose Weapon--$107.6 million and $0.7 million, respectively--should be considered for reduction because of the delays in the program and the need to further evaluate the two foreign-made systems before making a production decision. We noted concerns about the weight and length of the AT-4 and technical problems with the Improved Lightweight Antiarmor Weapon which have delayed the fiscal year 1985 program. (See app. VII.)

- - - -

We are sending copies of this report to the Chairmen, House and Senate Committees on Appropriations; the Director, Office of Management and Budget; the Secretaries of Defense, the Army, and the Navy; and other interested parties.

Sincerely yours,

for Frank C. Conahan
Director

HELLFIRE MISSILE SYSTEM

The Hellfire is an antitank missile that can be launched from the Army's Apache and the Marine Corps' Cobra helicopters. The missile operates with a seeker which homes in on laser energy transmitted to the target from the attack helicopter, other helicopters, or ground units. The Army is also considering using the Hellfire from a ground-launched system to satisfy the 9th Infantry Division's requirements.

Funding and quantities requested by the services for the Hellfire in fiscal year 1986 are shown in table I.1.

Table I.1

Fiscal Year 1986 Budget Requests

	Quantity	Amount (millions)
Army	6,576	$250.7
Marine Corps	1,304	55.1
Total	7,880	$305.8

For fiscal year 1986, the Army and the Marine Corps requested $33,584 for each Hellfire missile on the basis of the fiscal year 1986 proposed contract, which included missile hardware cost plus some direct recurring support costs. Actual fiscal year 1985 contract costs for the missile--established after the fiscal year 1986 budget was submitted--were 7.5 percent, or $15 million less than planned, because of competition between two contractors. By projecting this experience to fiscal year 1986, there is a potential to reduce budgeted unit costs by $2,519. This represents potential reductions of about $16.6 million and $3.3 million, respectively, in the Army and the Marine Corps' requests. Projecting the fiscal year 1985 experience together with other factors through the remainder of the program, the Army now estimates total program savings of $158 million.

Army officials stated, however, that requested fiscal year 1986 funds were justified. They said projecting the fiscal year 1985 savings to the fiscal year 1986 program was inappropriate at this time because 1 year's experience did not provide an adequate projection base. We believe this rationale may be inconsistent because (1) the Army is using this experience in projecting the above-cited total program savings and (2) the budgeted fiscal year 1986 unit cost is higher than the fiscal year 1985 unit cost despite a 36-percent increase in quantities and continued savings through competition which should reduce unit cost.

CHAPARRAL MISSILE SYSTEM

The Chaparral is a self-propelled, air transportable, short-range air defense system that consists of a tracked carrier, a launcher, and missiles. The Army is currently improving the Chaparral, and it plans to use the system through the 1990's. One improvement--the rosette scan seeker--is being made to provide the system with improved capabilities against infrared countermeasures. This seeker is in full-scale development, with the production decision and initial contract award scheduled for June 1986.

The Army's fiscal year 1986 funding request for the Chaparral totals $223.3 million, as shown in table II.1.

Table II.1

Fiscal Year 1986 Budget Request

	(millions)
Rosette missiles (300 units)	$ 60.0[a]
Production facilities	37.2[a]
Modification kits	112.9
Army National Guard test equipment	13.2
Total	$223.3

[a]These amounts are shown as a single line item in the budget request, totaling $97.2 million.

The Army's fiscal year 1986 request provides for awarding the rosette seeker production contract in March 1986; however, design changes needed to correct problems identified during the first flight test will delay the production decision and contract award 3 months--to June 1986. Current schedules show that final test results will not be available until September 1986--3 months later. Deferring the production decision until after completion of the tests and evaluation would result in reduced program risk and allow for deferring the $60 million requested for the rosette seeker missile procurement in fiscal year 1986.

Additionally, Army project office officials stated that the missile production schedule shown in fiscal year 1986 budget documents might not be the most cost effective program. For example, officials stated that optimum production rates--200 units each month--would not be achieved until July 1990. Preliminary Army estimates show that by deferring procurement until fiscal year 1987 and rescheduling production to achieve optimum rates in June 1989, the average unit cost could be

decreased by up to $5,000. A restructured program such as this, however, would require providing the $37.2 million facilities funding as requested in fiscal year 1986 and increasing future funds for missiles.

While project officials agreed that the current schedule included some risk, they noted that deferring initial procurement until fiscal year 1987 could present problems. They said, for example, that because new programs could not start under a continuing resolution, production could slip further if the fiscal year 1987 appropriations bill was delayed and such an occurrence could, in turn, delay the initial fielding of the system, create a gap between the development and production programs, and result in losing contractor technical expertise.

While we can understand the Army's concerns, the missile is not yet ready for production and the Army does not expect to complete tests and evaluation before September 1986. We believe the production decision should be deferred until after completion of these tests and evaluation. This deferral would reduce program risk and would allow for deferring the $60 million requested for the rosette seeker missile procurement in fiscal year 1986. Deferment would also allow the Army to restructure missile production schedules to more efficiently use the planned capacity and could save up to $5,000 for each missile, according to Army estimates.

TOW-2 MISSILE SYSTEM

The TOW-2 is an antitank/assault wire-guided missile that can be employed from a ground mount or a variety of military vehicles, including the Bradley Fighting Vehicle and the Cobra helicopter. TOW-2 is the third generation of TOW missiles. It is similar to its predecessors--TOW and Improved TOW--except it has a more lethal warhead, a more powerful flight motor, and a thermal beacon to improve performance in certain battlefield environments.

For fiscal year 1986, the Army and the Marine Corps requested a total of $271.4 million for 24,882 TOW-2 missiles, as shown in table III.1.

Table III.1

Fiscal Year 1986 Budget Requests

	Quantity	Amount (millions)
Army	20,100	$226.9
Marine Corps	4,782	44.5
Total	24,882	$271.4

For reasons discussed in a separate classified fact sheet, by limiting TOW-2 procurement to the minimum annual production quantity of 12,000 units, there is a potential to reduce the Army and Marine Corps' requests by $100.6 million and $24.2 million, respectively.

In addition, the Army and Marine Corps' fiscal year 1986 requests may be overstated by $1.6 million on the basis of revised warhead cost estimates. The budget submitted includes $1,077 for each missile warhead, but an April 1985 estimate totals $1,012 each. This change represents potential decreases of $1.3 million and $0.3 million, respectively, in the Army and Marine Corps' requests. If fiscal year 1986 quantities were limited as mentioned above, warhead cost savings would be limited to $0.6 million and $0.2 million, respectively, for the Army and the Marine Corps' requests.

TOW-2 missile deliveries are currently behind schedule. As a result of quality control problems at Hughes Aircraft Company, TOW-2 missile deliveries were suspended from July to December 1984. According to Army officials, the quality problems at Hughes have been resolved and deliveries resumed in January 1985. To prevent delaying the fiscal year 1986 program, the

APPENDIX III

Army has approved an aggressive delivery schedule that the Army believes will overcome previous delays and accelerate delivery of fiscal year 1985 contract quantities by 2 months.

The House Committee on Armed Services noted in House Report 99-81, dated May 10, 1985, that the quantities requested for the TOW-2 missile had increased by almost 70 percent over those in the fiscal year 1985 appropriations and recommended a reduction of 5,100 missiles and $35 million to meet budget reduction objectives.

In light of the problem areas discussed above and the additional data provided in our classified fact sheet on the TOW-2, we believe the Army and Marine Corps' requests for fiscal year 1986 TOW-2 missile procurement at levels exceeding fiscal year 1985 quantities may not be warranted. By limiting procurement to the minimum annual production quantity of 12,000 units, there would be a potential to reduce the Army and Marine Corps' requests by $101.2 million and $24.4 million, respectively.

HAWK MISSILE SYSTEM

The HAWK is an all-weather, mobile, surface-to-air missile system designed to destroy high-performance aircraft at low to medium altitudes. The Army is implementing a three phase product improvement program to reduce manpower, improve mobility, and increase firepower.

The first set of improvements (Phase I) updated target acquisition and fire control equipment. The next phase (Phase II), now being fielded, is to provide reliability and maintainability improvements for the tracking radar and to improve performance against countermeasures. The final phase (Phase III), still in development, will modify the current HAWK firing battery to increase mobility.

For fiscal year 1986, the Army and the Marine Corps' funding requests total $233.2 million, as shown in table IV.1.

Table IV.1

Fiscal Year 1986 Budget Requests

	(millions)
Army modification kits	$ 54.1
Marine Corps modification kits	39.1
Marine Corps missiles	140.0
Total	$233.2

The Army's $54.1 million fiscal year 1986 request for modification kits contains $4.8 million for 970 fuze arming kits. This modification was not developed as planned in fiscal year 1985, thereby precluding procurement in fiscal year 1986. The HAWK project office, however, plans to reallocate the $4.8 million to meet unanticipated requirements for maintenance and factory test equipment. According to project officials, the maintenance equipment is needed to support Phase III HAWK fire units, and the test items are needed to support fiscal year 1986 Phase III modification kit production. The amount of funding needed for the additional equipment is not yet known, but project officials stated that any residual funds would be used to procure additional Phase III modification kits in fiscal year 1986.

In conclusion, we believe the Army and Marine Corps' requests for the HAWK missile appear appropriate.

PATRIOT MISSILE SYSTEM

The Patriot is a surface-to-air missile capable of engaging multiple high-performance aircraft. The system consists of a radar, ground support equipment, missile launchers, and missiles. The Army's fiscal year 1986 budget request for the Patriot is shown in table V.1.

Table V.1

Fiscal Year 1986 Budget Request

	Quantity	Amount
		(millions)
Missiles	585	$ 395.7
Fire units	12	456.2
Support costs	-	131.5
Total		$ 983.4

We believe the Army's fiscal year 1986 budget request for the Patriot may be overstated by $8.8 million on the basis of a recent warhead unit cost estimate. The budget request includes $79,000 for each warhead, but current estimates are $15,100 less than budgeted. For the 585 units requested, this represents a total potential reduction of $8.8 million from the Army's request. This lower estimate resulted from revising the warhead fuze production cost estimate to reflect actual cost experience.

A project official agreed that the warhead cost estimate was overstated on the basis of the recent estimate. However, he did not consider the variance significant because it was less than 1 percent of the total request.

In addition, deliveries of 3 fire units and 159 missiles are late. Contractually, 16 fire units were to have been delivered by the end of February 1985, while 13 were actually delivered. With respect to the missile, 476 missiles were to have been delivered by the end of February 1985, while 317 were actually delivered. According to project officials, the fire units are late primarily because of a problem with the radar pedestal while the missiles are late because of a production problem in the radome bonding. Project officials believe that both problems have been corrected and that all deliveries will be on schedule by December 1985.

STINGER MISSILE SYSTEM

The Stinger is a man-portable air defense weapon designed to engage low flying aircraft. The system includes a missile, a reusable gripstock, a device to identify friendly and enemy aircraft, and related ancillary equipment. The missile currently being produced incorpo ɜtes a seeker called the Passive Optical Seeker Technique (POST), to improve system capability over the basic Stinger. Additionally, the Army plans further performance improvements by incorporating a reprogrammable microprocessing (RMP) capability into fiscal year 1985 production quantities.

For fiscal year 1986, the Army and Marine Corps are requesting $363.5 million to buy 4,239 missiles with the RMP capability, as shown in table VI.1.

Table VI.1

Fiscal Year 1986 Budget Requests

	Quantity	Amount (millions)
Army	3,439	$304.1
Marine Corps	800	59.4
Total	4,239	$363.5

The Army initially proposed a production rate increase of up to 60 missiles each month, but reduced the increase to 20 missiles a month in the budget because of the Office of the Secretary of Defense's (OSD) concern that such a buildup could cause program slippage, cost growth, and system reliability deficiencies. We found that although the Army conformed to the OSD guidance by scheduling its fiscal year 1985 and 1986 program deliveries at a buildup rate of about 20 missiles a month, the Army's schedule was actually based on producing Stinger-POST missiles in the fiscal year 1985 program rather than Stinger-RMP missiles.

According to the Stinger project office's records, if the Stinger-RMP modification is produced starting with the fiscal year 1985 program, production schedules would have to be revised. The project office's tentative schedule for producing the Stinger-RMP shows a monthly increase in the production buildup rate of up to 64 missiles a month--44 more than the OSD-recommended production buildup rate.

If the Stinger-RMP production schedules were restructured to a buildup rate of 20 missiles a month as recommended by the OSD guidance, 1,531 missiles would not be included in the fiscal year 1986 program, resulting in a potential reduction of $99.6 million.

Project officials told us that deferring these 1,531 missiles to the end of the program (fiscal year 1991) would increase total program costs by $27 million--$15 million for the Army and $12 million for the Marine Corps--because of escalation and support costs associated with stretching out the production program. We recognize these concerns expressed by project officials. But in view of the OSD concern about the Army's production schedule for the missile, we believe the request should be considered for potential reduction.

LIGHTWEIGHT MULTIPURPOSE WEAPON

The Lightweight Multipurpose Weapon is designed to engage lightly armored vehicles and field fortifications at close range. The system will consist of a rocket sealed in an expendable launcher. It is to be issued as a round of ammunition similar to the Lightweight Antiarmor Weapon (LAW) now in the Army and the Marine Corps' inventories.

The Army is currently considering two systems for the lightweight multipurpose requirement--the Swedish AT-4 and the Norwegian Improved LAW. The AT-4, which costs $658 each, is 40 inches long and weighs 14 pounds. The improved LAW, which is estimated to cost $365 each, is 27 inches long and weighs about 7 pounds. The Improved LAW is comparable to the existing LAW in terms of weight and length but incorporates a new warhead and rocket motor.

The fiscal year 1986 request is based on buying the more expensive AT-4. If the Improved LAW is selected for procurement, there is a potential to reduce the Army and Marine Corps' requests by $49.2 million and $0.3 million, respectively, for comparable quantities.

Army officials are uncertain whether the Lightweight Multipurpose Weapon production decision will be made in late August or early September 1985, as scheduled, or delayed until Improved LAW test results are available. Project officials have noted that if AT-4 is selected, delaying the decision could increase its cost because the fiscal year 1985 production option expires in September 1985. The Army has no assurance that the contractor will extend the production option, but some Army officials have stated that obtaining an extension should not be a major problem. Delaying the decision would permit the Army to use the test and evaluation results for both candidate systems for selecting the preferred candidate. If delayed, production could begin using the fiscal year 1985 funds provided for the Lightweight Multipurpose Weapon and the fiscal year 1986 requests could be considered excess.

A breakout of the fiscal year 1986 budget request is shown in table VII.1.

Table VII.1

Fiscal Year 1986 Budget Requests

	Quantity	Amount (millions)
Army	156,200	$107.6
Marine Corps	1,064	.7
Total	157,264	$108.3

Uncertainty exists regarding whether fiscal year 1986 procurement funds will be needed because of AT-4 operational suitability concerns, Improved LAW technical problems, and the availability of fiscal year 1985 production funds.

According to Army project office officials, the AT-4 may not be operationally suitable because of its weight and length. Officials stated, for example, that the system's weight limited the number that could be carried by troops. Additionally, its length hinders troops entering and exiting personnel carriers, such as the Bradley Fighting Vehicle, and it impedes movement in wooded terrain. Further, the system's length may pose a safety problem for airborne troops since it could become entangled in parachute lines.

Because of these factors, the Army began developing the Improved LAW as a Lightweight Multipurpose Weapon candidate. This program has been delayed, however, because a rocket motor exploded during recent testing. This problem is still being investigated, and project officials estimate that final test results will be delayed at least 5 months--until January 1986.

In conclusion, we believe the fiscal year 1986 procurement request should be considered for reduction because the fiscal year 1985 program has been delayed and because of the need to further evaluate the two systems before making a production decision.

OBJECTIVES, SCOPE AND METHODOLOGY

On September 21, 1984, the Chairman, Subcommittee on Defense, Senate Committee on Appropriations, asked us to review the Department of Defense's fiscal year 1986 budget requests for (1) procuring conventional ammunition and modernizing the ammunition production base, (2) procuring tactical ground-launched antitank and antiaircraft missiles, and (3) proposed multiyear procurement candidates. This report addresses the missile procurement segment. As agreed with the Subcommittee, the ammunition and multiyear segments are being addressed in separate responses to the Subcommittee.

We limited our analysis to the justifications for the fiscal year 1986 budget requests for six missile systems being requested by the Army. The missile systems reviewed included the Hellfire, the Chaparral, the TOW-2, the Hawk, the Patriot, and the Stinger. Since the Marine Corps was also requesting funds to procure the Hellfire, the TOW-2, the Hawk, and the Stinger, we included the Marine Corps' requests in our review. In addition, as directed by the Subcommittee, we examined the Army and Marine Corps' fiscal year 1986 budget requests for the Lightweight Multipurpose Weapon.

In examining the budget requests, we identified and determined the impact of production problems on missile delivery and producibility, identified changes in missile unit costs since the budget estimate was prepared, and determined if there were any planned improvements or production changes which would warrant delaying or reducing procurements at the planned rate. Additionally, we evaluated factors such as requirements, inventory positions, production schedules, quality control, and testing and development status to identify those with potential problems.

Work was initiated in October 1984 at the U.S. Army Missile Command, Redstone Arsenal, Huntsville, Alabama, and was completed in June 1985. We conducted this work in accordance with generally accepted government audit standards.

As directed by the Subcommittee, we did not request the Department of the Army and the Marine Corps to review and comment on a draft of this report, but we did obtain the comments of directly responsible officials during our review and have incorporated their comments where warranted.

(393080)

END

FILMED

10-85

DTIC